Go There. Then Share.

www1.coseecoastaltrends.net/modules/coral_reefs_and_climate_change/

Coral reefs and climate change educational web module is live and ready for the classroom.

In the summer of 2010, the Pacific Island Network teamed up with the Integration and Application Network at the University of Maryland Center for Environmental Science to create a unique and innovative, web-based educational program that communicates coral reef science through inquiry and observation in the Pacific islands.

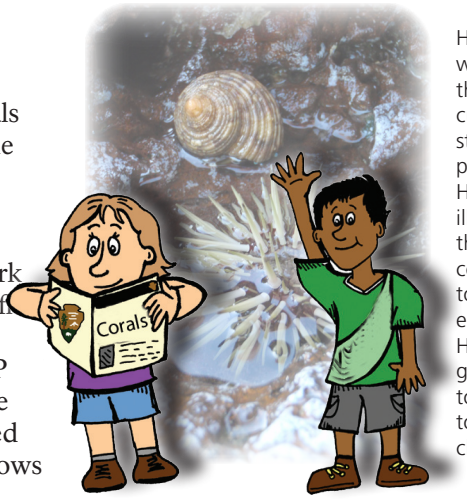
Careful web design and interactive elements allow users to explore the incredible biodiversity of coral reefs and collect data about coral cover with the same methods used by scientists. Users see into the future as unchecked carbon emissions increase ocean acidification and erode corals, and take charge by building their own reef ecosystems in Guam, Hawaii, or American Samoa with an interactive food-web game.

Specifically designed to allow students to choose their experience and observe the topics that are most interesting to them, this web module uses games, videos, and animations to help users observe reef ecosystems and inspire them to develop their own questions. Woven throughout the module are activities on sustainable fishing, traditional land use practices, and many other cultural, natural, and scientific connections to the resources. The text and activities are supported by several short movies on everything from local fishing pressures to encouraging students to take action by learning about and preserving reefs.

So how does the National Park Service benefit from this project? Beyond the intrinsic educational value of teaching about the plants and animals that make up the reefs, users have the opportunity to actually explore the biology of and threats to the reefs in four national parks. Case studies of coral reefs are set in the National Park of American Samoa, War in the Pacific NHP (Guam), Kaloko-Honokōhau NHP (Hawaii), and Kalaupapa NHP (Hawaii). The incorporation of these unique parks provides the user varied examples of reef ecosystems and allows the parks to highlight their reefs and associated threats like bleaching and sedimentation. Furthermore, actual Inventory and Monitoring Program benthic cover data is incorporated into the module to lend a real-world element to the scholastic science.

In addition to student resources like a glossary, the partnership created an Access Classroom Resource page where teachers can download the materials they need to implement module activities and lessons. Here, teachers can access teaching standards, learning objectives, and time requirements related to each activity. This information enables teachers to easily incorporate some or all of the activities into their lesson plans.

The coral reefs and climate change module developed by this partnership differs from other web educational materials in a variety of ways: a) the materials are based on sound science and data, b) the classroom activities were designed by educators in collaboration with scientists and students, c) cultural connections and traditional practices are included to help engage Pacific islanders, and d) all of the web and classroom materials are vetted by teachers and reviewed by scientists. These materials conform with state, territorial, and federal high school and middle school education standards, but are uniquely targeted to Pacific island audiences.



How do we tap into the natural curiosity students possess? How do we illustrate their connections to coastal ecosystems? How do we get them to relate to climate change?

Evaluation data from a focus group of science educators in the Pacific islands indicates that the content of the module is age and regionally appropriate, the classroom and outdoor activities are effectively integrated with the web pages, and that teachers believe that the module can be easily implemented in the classroom.

The next crucial step is the adoption of this program into classrooms. A week-long intensive teacher workshop on the module was hosted on O‘ahu in June, with hopes that the 16 Hawaii teachers who participated will use the program and share it with peers. A shorter workshop was held on Hawai'i in September, and more are planned for Guam and American Samoa next summer. However, introduction to this fully conceived, tested, and important science education program needs your help to broadcast its virtues widely.

Please take a few minutes to go to the website at the top of the page, and see for yourself the educational potential within. Then share it with every educator you know. We think that you will like it as much as we do.

—C. Nash, NPS
Science Communicator

—J. Woerner, UMCES
Science Communicator